



# **Wodonga Creek Activation Project, Wodonga, LOCALITY**

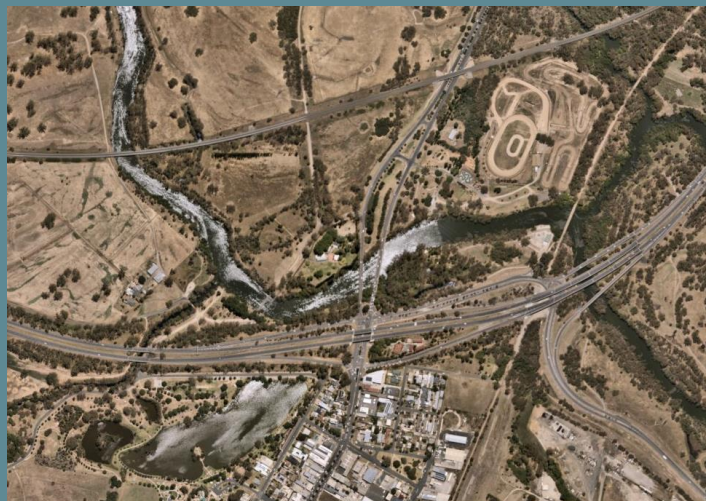
## **Technical Specification**

**Project # W023022**

Revision A, APRIL 2026

Prepared for;

**WODONGA CITY COUNCIL**



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Version	Date	Author	Approver	Comments
A	4/05/2026	Shannon Leahy	-	Draft Issue for Tender





# 1 BACKGROUND

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## 1.1 Introduction

The Wodonga Creek Activation Project is a parkland and infrastructure improvement project designed to enhance public amenity and recreational access along Wodonga Creek. The scope encompasses site preparation, civil earthworks, and the construction of associated road, drainage, and structural elements. Guided by the Infrastructure Design Manual (IDM) and relevant state and national standards, the project prioritizes environmental sustainability, site safety, and high-quality infrastructure delivery.

## 1.2 Scope

The following outlines the scope of works the Contractor is to provide all labour, material, plant and equipment to carry out.

The civil works at the Wodonga Creek activation project encompass the site preparation, earthworks, and construction of associated infrastructure in accordance with the Infrastructure Design Manual (IDM) and approved design plans. The scope includes siteworks, vegetation protection, tree protection, and erosion control measures, alongside bulk earthworks, structural filling, and bank stabilization. Pavement and road infrastructure works involve the construction of flexible or rigid pavements, kerb and channel profiles, carparks, and open drainage channels. Associated infrastructure, such as stormwater pits and pipes, line marking, fencing, and a Geohex emergency access boat ramp, will be constructed to relevant Australian Standards and authority requirements. All works are subject to strict Quality Assurance, Inspection and Test Plans (ITPs), and mandatory hold points overseen by the Superintendent.

# 2 SITE PREPARATION/CONDITIONS

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## 2.1 Environmental conditions

### 2.1.1 Noise Control

In accordance with IDM, the Construction Engineer is to ensure that noise emitted from the site always remains within the specified limits set by the EPA for the relevant activity. The applicable EPA policies and guidelines are available from the EPA website. Should Council receive a complaint from the public relating to noise generated from the site, Council will expect the Construction Engineer immediately to arrange for independent noise testing to be undertaken, and to submit the results of that testing to Council's Engineering Department for consideration

### 2.1.2 Dust Control

Council will expect the Construction Engineer to ensure that dust suppression is achieved through constant water spraying or the application of other naturally based proprietary dust suppressants, and that the dust caused by vehicles travelling on roads to and within the Development does not cause a nuisance to surrounding properties.

### **2.1.3 Erosion Control**

Council will expect the Contractor/Construction Engineer to ensure that dust, mud, and debris do not leave any Development site during and after construction, and to have regard to the recommendations in Austroads Road Design Guidelines Part 5 – General and Hydrology Considerations and any VicRoads Supplement to those guidelines, and in the EPA Publication 960 Do it Right on Site - Chapter 4 Erosion and Sediment.

Erosion and sediment discharge control measures during construction may include cut-off drains to intercept surface water before it reaches the areas of disturbed earth and acceptable silt control measures installed immediately upstream of each drain entrance. Typical measures to ensure that all silt is retained within the site may include: Settlement ponds, Sediment Fence filters, Gravel sausages made from a geo-textile sleeve for placement at kerbside drainage pits, Straw bales on open, cut-off or diversions drains, Temporary sumps in selected and acceptable drainage pits, Landscaping or the promotion of vegetation downstream of the works but still within the site.

Site access points should be kept to a minimum to minimize the number of areas required for stabilization and vehicle cleaning, and sections of road targeted for cleaning in the event that mud is accidentally conveyed from the site. Soil movement at site access and exit points should be controlled by using a rumble grid or by requiring vehicles to travel the length of a stabilised access track. All machinery should be prevented from accessing non-essential parts of the site. In accordance with EPA Publication 960, batter slopes should be no steeper than 2:1, be finished as soon as possible with at least 75mm of weed-free topsoil, either topped with weed mat or mulch or hydro-seeded, to establish vegetation such as suitable grass species and ensure that erosion is minimised. All boundaries between the work site and existing public land should be protected and maintained with adequate sediment control measures as soon as is practicable upon completion of works, and in accordance with the approved CEMP.

### **2.1.4 Tree Protection Zones**

Tree protection zones are to be fenced off and implemented in accordance with the dimensions on the approved plan set. Vehicle movements, stockpiling of materials and excavation/construction is prohibited within the Structural Root Zone (SRZ) with council/Principal approval required for operation to be implemented within the Tree Protection Zone (TPZ) as per IDM 24.4.4.4.1.

### **2.1.5 Vegetation protection**

Council expects Healthy pre-existing vegetation to be retained and protected in accordance with approved plan set and council legislation. Additional removal is to be at the instruction of the Principal/Superintendent.

### **2.1.6 Stockpiling and Hardstands/material storage**

Stockpiling and material storage to be in locations outlined in CEMP or as directed by Superintendent/Principal

## **2.2 General Conditions**

### **2.2.1 Site Access**

The Contractor must permit the Principal, including its authorised employees and agents, to have access to the Site and to the premises of the Contractor at all reasonable times and must arrange for equivalent access to premises of Subcontractors, Suppliers and Consultants. The Principal may require access to the Site for any purpose and access to the premises of the Contractor, Subcontractors and Consultants (as applicable) for any reasonable purpose connected with the construction works, including surveillance, audit, inspection, Testing, certification and recording of information.

### **2.2.2 Site Safety Requirements**

The Contractor must prepare, present and retain on site a conforming Safe Work Method Statement (SWMS) for all works to be conducted in relation to this project. All visitors, Subcontractors, Consultants and Workers must sign on to the SWMS prior to entering work site. A Sign on sheet must be kept on site and utilised for all visitors, Subcontractors and Consultants

## **3 SPECIFICATION**

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### **3.1 Road**

#### **3.1.1 Flexible Pavement**

All Pavement works are to be conducted in accordance with Austroads Guide to Pavement Technology Part 4K, Austroads Guide to Pavement Technology Part 2, VicRoads Standard Specifications for Roadworks and Bridgeworks (Clause 304.07), and to meet the requirements outlined in Part 5 of this technical specification, and the approved design details.

##### **3.1.1.1 Subgrade**

Subgrade compaction must be in accordance with the approved pavement design for each respective location. Subgrade construction including trimming and preparation should be completed to the approved design levels, and the satisfaction of the Superintendent and Council Engineer. Subgrade should present as a uniform, tight dense homogenous layer.

Compaction should reflect traffic volumes and pavement design in accordance with the VicRoads Standard Specifications for Roadworks and Bridgeworks (Clause 304.07). A Dynamic Cone Penetrometer may be used to verify compaction of trimmed and prepared subgrade material. Compaction testing of base and sub-base material should be carried out by a NATA registered laboratory or by calibrated nuclear densometer test to the relevant Australian Standard. Where possible, tests should be taken at two-thirds of the pavement depth.

Compaction testing of the subgrade will be required when imported or site-won material is used to raise the existing surface to finished subgrade level and/or when approved subgrade treatments (including the addition

of granular material) extend more than 200 mm below the finished subgrade level. When such testing is required, the subgrade material must be compacted to 98% of the standard dry density [STDDD] or in accordance with the Construction Specification outlined in the approved designs.

Unless otherwise agreed by Council, compaction testing should be undertaken within 48 hours of a successful proof roll.

#### **3.1.1.2 Subbase**

Subbase must be constructed in accordance with the approved pavement design for each respective location and prepared to the satisfaction of the Superintendent/Council Engineer. The layer should be uniform in texture, hard tight dense surface with the tops of aggregates visible to ensure correct interface between pavement layers and prevent lamination.

#### **3.1.1.3 Base**

Base must be constructed in accordance with the approved pavement design for each respective location and prepared to the satisfaction of the Superintendent/Council Engineer. The layer should be uniform in texture, hard tight dense surface with the tops of aggregates clearly visible to ensure correct interface between base layer and Seal Binder.

#### **3.1.1.4 Wearing Course**

All Asphaltting and spray sealing works should be completed in accordance with Austroads Guide to Pavement Technology Part 4k Section 7, and with the approved Pavement Design.

For the primer seal, Initially, the **PRIMER** should be allowed to dry and cure or thicken and increase in viscosity (by evaporation of cutter oil), or in the case of emulsions 'break' before any trafficking is allowed.

A surface primed with cutback bitumen should be allowed to cure for a minimum period of three days prior to sealing, depending on prevailing drying conditions. Cutter can be trapped in the prime if sealed over too early and will diffuse into the seal and soften it.

Bitumen emulsion and some proprietary primers (specialty grades) can often be sealed after one- or two-days curing, depending on prevailing drying conditions. Caution should be taken to verify this shorter curing period is adequate for the particular product and prevailing conditions before use.

Initially, the binder should be allowed to cure, or thicken and increase in viscosity, or in the case of emulsions 'break' before any trafficking of the initial seal is allowed.

When cutback bitumen is used, the secondary treatment should not be applied until a reasonable period of curing has elapsed, as residual cutter oil can soften subsequent bituminous surfacing. The curing rate depends on binder grade, application rate and climatic conditions during the curing period. A minimum of six months of warm or hot weather is recommended, although 12 months may be beneficial in colder weather. The minimum curing period may be reduced to three months for relatively low cutter content initial seal binders (such as AMC7) when used in warm or hot conditions.

Initial seals constructed with bitumen emulsions may be covered with asphalt after only two to three days, however a period of three months is recommended before covering with a spray seal.

### **3.1.2 Asphalt and FCR Overlay**

All asphalt and Fine Crushed Rock (FCR) overlay works must be executed in accordance with the Austroads Guide to Road Design (AGRD) and the approved pavement design. When overlaying asphalt over an existing seal or wearing course, the existing surface must be thoroughly swept, profiled where necessary, and uniformly tack-coated to ensure optimal adhesion and structural bonding between layers. The new overlay must be laid to the precise longitudinal grades, crossfalls, and superelevation transitions specified in the design plans, ensuring positive surface drainage and geometric compliance with the AGRD.

### **3.1.3 Concrete Pavement**

All concrete/Rigid Pavement construction is to be completed in accordance with AS3600-2018 Concrete Structures, Austroads/VicRoads relevant standards and the Approved Design.

### **3.1.4 Kerb**

All kerb and channel infrastructure shall be constructed in strict accordance with the approved standard drawings and the guidelines set forth in the Infrastructure Design Manual (IDM). Prior to concrete placement, the subgrade and flexible base course must be uniformly compacted to a minimum of 95% Standard Maximum Dry Density (SMDD), maintaining true line and level. Concrete shall be manufactured, supplied, and placed in compliance with AS 1379 and AS 3600, utilizing a minimum 28-day characteristic compressive strength of 25 MPa, or 32 MPa where specified for commercial or high-stress vehicular crossings. Kerb profiles shall be machine-extruded or cast-in-place using rigid formwork, ensuring a smooth, continuous finish free from honeycombing or segregation. To control cracking and accommodate thermal movement, contraction joints shall be formed or saw-cut to a minimum depth of 25mm at intervals not exceeding 3.0 meters, while full-depth expansion joints shall be installed at all drainage structures, tangent points, and at maximum 15.0-meter intervals. Immediately following finishing operations, an approved liquid membrane-forming curing compound must be applied evenly to all exposed surfaces to ensure optimal strength development and long-term durability.

### **3.1.5 Carpark**

All asphalt carpark pavements, including subgrade preparation, granular base layers, and the asphalt wearing course, shall be constructed in strict accordance with the approved drawing set and the Infrastructure Design Manual (IDM). Specific pavement layer thicknesses, material classes, and compaction requirements must adhere to the details provided in the approved pavement design plans. The finished asphalt surface shall be laid to the lines, levels, and crossfalls specified in the drawings to ensure positive drainage and eliminate surface ponding. All associated infrastructure, including line marking, signage, wheel stops, and parking bay layouts, shall be installed precisely as detailed in the approved drawing set and in compliance with AS 2890.1.

### **3.1.6 Linemarking and Raised Pavement Markers**

All pavement linemarking and raised pavement markers (RPMs) shall be supplied and installed in strict accordance with the approved drawing set, the Austroads Guide to Traffic Management, and relevant VicRoads Standard Specifications. Pavement marking materials, including waterborne paint, thermoplastic, or cold-applied plastic, must comply with AS 4049 and be applied pursuant to VicRoads Sections 701, 703, or 704. Prior to application, the pavement surface must be thoroughly cleaned, dry, and free from loose material to ensure proper adhesion. The geometry, dimensions, colour, and layout of all longitudinal lines, transverse markings, symbols, and text must adhere strictly to the AS 1742 series and, where applicable within off-street facilities, AS 2890.1. To ensure optimal night-time visibility, approved retroreflective glass beads shall be uniformly incorporated into or applied over painted and thermoplastic markings. Raised pavement markers must conform to the requirements of AS 1906.3 and be permanently affixed to the pavement using an approved hot-melt bituminous adhesive or two-part epoxy, positioned precisely as detailed in VicRoads Section 708 and the standard drawings.

## **3.2 Stormwater**

All stormwater drainage infrastructure, including pipes, pits and associated connection works, shall be supplied and installed in strict accordance with the approved drawing set, the Infrastructure Design Manual (IDM), and AS/NZS 3500.3 (Plumbing and Drainage – Stormwater Drainage). Trench excavation, pipe bedding, laying, and backfill operations must adhere to the dimensions, material classes, and compaction requirements detailed in the approved plans. All drainage lines must be laid to the grades and invert levels specified in the drawings to ensure uninterrupted gravity flow and positive drainage. Connections to existing municipal stormwater networks or legal points of discharge must be executed exactly as detailed in the approved drawing set and inspected by the relevant authority prior to backfilling.

### **3.2.1 Pits**

All stormwater drainage pits shall be constructed and installed in strict accordance with the approved drawing set and the Infrastructure Design Manual (IDM). Pit dimensions, excavation profiles, base preparation, and concrete specifications, whether utilizing pre-cast units or cast-in-place construction, must adhere to the details provided in the approved plans. Internal benching shall be smoothly formed to the specified pipe invert levels and channel widths to ensure efficient hydraulic transition and prevent debris accumulation. All access covers, grates, and frames must comply with AS 3996 and be installed flush with finished surface levels, utilizing the specific load class designated in the drawing set for the surrounding traffic environment.

### **3.2.2 Pipes**

All stormwater drainage conduits, including Reinforced Concrete Pipe (RCP), Polyvinyl Chloride (PVC), and dual-wall corrugated polypropylene pipes (such as Stormpro), shall be supplied and installed in strict accordance with the approved drawing set, the Infrastructure Design Manual (IDM), and AS/NZS 3500.3. Pipe material selection, diameter, load or stiffness class, and exact invert levels must strictly adhere to the details provided in the approved plans. Rigid pipelines (RCP) must comply with AS 4058 and be installed with the specified support type per AS/NZS 3725. Flexible pipelines, including PVC (AS/NZS 1254) and Stormpro-style

PP pipes (AS/NZS 5065), shall be installed and uniformly bedded in accordance with AS/NZS 2566.2. Trench excavation, granular embedment material, laying, jointing (rubber ring or solvent welded, as specified), and backfill compaction must be executed exactly as detailed in the drawings to ensure a watertight network, maintain structural integrity, and prevent pipe deformation or settlement under load.

### **3.2.3 Open Drainage Channels**

All open cut drainage channels, swales, and batters shall be excavated and constructed in accordance with the approved drawing set, the Infrastructure Design Manual (IDM), and relevant environmental protection guidelines. Earthworks shall be executed to achieve the precise longitudinal grades, invert widths, and batter slopes detailed in the approved cross-sections to ensure non-scouring hydraulic conveyance and bank stability. The excavated base must be uniformly compacted and prepared prior to the installation of any specified lining. Depending on the design flow velocities and scour potential identified in the plans, channels shall be stabilized using approved methods, which may include the respreading of site-won topsoil and hydroseeding, the application of biodegradable erosion control matting (e.g., jute mesh), the placement of geotextile-backed rock beaching, or cast-in-place concrete lining. All transitional interfaces with culverts, headwalls, and existing natural waterways must be seamlessly integrated and adequately protected against localized erosion to ensure long-term structural integrity and uninterrupted flow efficiency.

### **3.3 Private Potable Water**

All private potable water infrastructure, including supply lines, meters, valves, and associated fittings, shall be supplied and installed in strict accordance with the approved plan set and the fundamental requirements of AS/NZS 3500 (Plumbing and Drainage). The Contractor shall make full allowance for all trench excavation, pipe bedding, laying, and backfill operations to adhere precisely to the dimensions, material classes, and alignments detailed in the approved drawings. Any connections to the existing municipal water network must be executed exactly as specified and inspected by the relevant water authority prior to commissioning and backfilling.

### **3.4 Concreting**

All Concreting, form work and base preparation is to comply with AS3600:2018 – Concrete Structures. All general concrete works, including pathways, minor structures, and slabs, shall be constructed in strict accordance with the approved drawing set, the Infrastructure Design Manual (IDM), and the fundamental requirements of AS 3600. Concrete must be sourced from an approved batching plant in compliance with AS 1379 and delivered to achieve the specific characteristic compressive strength, slump, and exposure classification detailed in the plans. Prior to placement, the subgrade must be compacted to the specified density, and all formwork and reinforcement (where applicable) shall be securely fixed and inspected. Concrete placement and compaction must ensure a dense, homogeneous mass free from segregation, honeycombing, or cold joints, and be finished to the specified tolerances. To mitigate shrinkage cracking and ensure durability, appropriate contraction and expansion joints shall be installed as drawn, and an approved continuous curing method must be initiated immediately following surface finishing.

### **3.4.1 Formwork**

All formworks shall be designed and erected in strict accordance with AS 3610 and AS 3600 to rigidly maintain the exact structural depths, profiles, and finished tolerances detailed in the approved drawing set. Formwork systems must be adequately braced to prevent deflection under the weight of wet concrete and vibratory loads, ensuring the finished element achieves its full specified depth. Steel reinforcement shall comply with AS 4671, utilizing deformed steel bars for all primary structural reinforcement and approved ribbed welded wire fabric (such as SL series mesh or trench mesh) for slabs and footings, exactly as scheduled in the plans. To ensure long-term durability and structural integrity in accordance with the relevant AS 3600 exposure classification, the specified minimum concrete cover to all reinforcement must be rigorously maintained. All reinforcement shall be securely tied and supported at the correct elevation using approved proprietary wire, or concrete chairs, spaced sufficiently to prevent sagging, guaranteeing the required cover (typically a minimum of 50mm where cast directly against the ground, unless otherwise detailed in the structural drawings) is not compromised during concrete placement.

### **3.4.2 Base Preparation**

All subgrade and granular base preparation for concrete slabs shall be executed to the satisfaction of the construction engineer/Superintendent and in strict accordance with the approved drawing set, the Infrastructure Design Manual (IDM), and AS 3798. The natural subgrade shall be excavated to the design levels and uniformly compacted to the exact density specified in the geotechnical report or structural plans. Where a granular subbase or bedding layer is required, approved material (such as crushed rock or paving sand) shall be placed, levelled, and consolidated to the specific thickness and tolerances detailed in the drawings. Immediately prior to the installation of reinforcement, an approved continuous high-impact polyethylene vapor barrier (minimum 0.2mm thickness) must be laid over the prepared base with all joints generously lapped and taped, ensuring a completely uniform, puncture-free membrane to prevent moisture ingress.

### **3.4.3 Concrete paving/Footpath**

All concrete footpaths, shared user paths, and hardstand paving shall be constructed in strict accordance with the approved drawing set, the Infrastructure Design Manual (IDM), and AS 3600. The subgrade and any specified granular bedding layer must be uniformly compacted to density requirements indicated in the approved plan set to provide a firm, unyielding foundation. Concrete shall be supplied with a minimum 28-day characteristic compressive strength of 25 MPa (or 32 MPa at vehicular crossover interfaces/where indicated) and reinforced exactly as detailed in the plans. The finished path must be laid to a continuous longitudinal grade and a maximum transverse crossfall of 1:50 (2%) to ensure positive drainage while strictly complying with AS 1428.1 for equitable pedestrian access. To ensure public safety, the pavement shall receive a uniform, transverse medium-broom finish to achieve the slip resistance classification mandated by AS 4586. Jointing detail is provided in the approved plan set

## **3.5 Siteworks/ Earthworks and Excavation**

All earthworks and general site preparation shall be executed in strict accordance with the approved drawing set, the Infrastructure Design Manual (IDM), and AS 3798. Initial siteworks must include the clearing and grubbing of all vegetation, debris, and deleterious materials, followed by the stripping of topsoil to designated stockpile locations for later reuse or removal. Excavation and filling operations (cut and fill) shall be seamlessly undertaken to achieve the precise design subgrade levels, cross-sections, and batter slopes detailed in the plans.

### **3.5.1 Stockpiling**

All stockpiling of site-won topsoil, excavated subsoil, and imported construction materials shall be managed in strict accordance with the approved construction environmental management plan (CEMP), the Infrastructure Design Manual (IDM), and relevant Environmental Protection Authority (EPA) guidelines. Stockpiles must be positioned exclusively within the designated footprint detailed in the approved drawing set, strictly avoiding drainage lines, existing infrastructure, and established tree protection zones (TPZs). Topsoil shall be stripped and stockpiled separate from underlying subgrade materials to prevent cross-contamination and preserve its agronomic properties for future site rehabilitation. To mitigate windblown dust and sediment runoff, all stockpiles must be formed with stable batters (maximum 2:1 slope) and immediately secured using approved temporary erosion and sediment control (ESC) measures.

### **3.5.2 Filling**

All filling and embankment construction shall be executed in accordance with the approved drawing set and associated levels, the Infrastructure Design Manual (IDM), and AS 3798. Only approved fill material, completely free from organic matter, deleterious substances, and oversized rock, shall be utilized unless approved by the Superintendent. Fill shall be placed in uniform horizontal layers, with loose thicknesses not exceeding the limits detailed in the project specifications, and systematically moisture-conditioned to achieve optimal compaction where relevant. Each layer must be uniformly compacted to the exact density ratio specified in the approved plans.

### **3.5.3 River Bank Works**

All riverbank stabilization, scour protection, and associated riparian earthworks shall be executed in strict accordance with the approved drawing set, the site-specific Construction Environmental Management Plan (CEMP), and the requirements of the relevant waterway and environmental regulatory authorities. Prior to the commencement of works, robust erosion and sediment controls, such as floating silt curtains, coir logs, and clean water diversions, must be securely installed to prevent turbidity and protect the aquatic environment. Earthworks shall involve the precise reshaping and grading of the existing bank to the stable design batters specified in the cross-sections. Where hard armour protection is required, a heavy-duty, non-woven geotextile filter fabric shall be laid over the prepared subgrade prior to the placement of rock beaching, riprap, or gabion structures, which must be sized, graded, and interlocked exactly as detailed in the structural drawings to resist design flood velocities. For bioengineered and revegetation zones, approved biodegradable erosion control matting shall be securely pinned to the prepared topsoil, followed by the installation of riparian

plantings or hydroseeding as scheduled, ensuring both immediate scour protection and long-term ecological stability.

### **3.5.3.1 Emergency Access Boat Ramp**

Specified emergency service boat ramp shall be constructed utilizing the Geohex Soil Stabilization System in strict accordance with the approved drawing set, manufacturer installation guidelines, and relevant environmental or waterway authority requirements. The subgrade must be excavated and prepared to manufacturer specifications. The 100% recycled plastic Geohex grids must be systematically laid, securely interlocked, and anchored to the base using manufacturer-approved ground pins, particularly across the ramp batter and submerged transition zones, to resist hydrodynamic scour and high vehicle traction forces. To achieve the required "green" permeable finish, the cellular matrix shall be filled flush to the top edge with the specific angular aggregate or rootzone/topsoil mix specified by the manufacturer.

### **3.5.4 Fencing**

All fences, including the specific Moddex barriers for the river path (Type A) and shared path (Type E), chain and bollard fences (Type B), standard rural and post-and-wire fences (Types C and D), and the spear-top security fence (Type F), must be built in accordance with manufacturers specifications. For the manufactured systems like Moddex, the builder needs to double-check all the connections, baseplates, and layout details directly with the manufacturer before starting. When putting the posts in the ground, make sure the concrete footings match the plans and properly cover the bases of the posts. You must use the correct materials listed for each fence type noted in the approved typical drawing set and manufacturer specifications. All minimum dimensions are to be achieved in accordance with the approved plan set.

## **3.6 Electrical**

All electrical design, supply, and installation works associated with lighting, power distribution, and shelter amenities shall be executed in strict accordance Australian Standards, local supply authority requirements, and the fundamental principles of AS/NZS 3000 (Wiring Rules). Where applicable, public realm and structural lighting must comply with the relevant categories of AS/NZS 1158. It is a mandatory requirement that all electrical installations, connections, and testing be performed exclusively by competent, fully licensed A-Grade electricians operating under a registered Electrical Contractor. Upon practical completion and prior to site handover, the contractor must comprehensively test the system and provide a statutory Certificate of Electrical Safety (COES), alongside all required commissioning documentation, to verify absolute compliance and operational safety.

## **4 QUALITY ASSURANCE**

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Prior to the commencement of works, the Contractor must submit a comprehensive Inspection and Test Plan (ITP) detailing all critical construction stages, material testing frequencies, and mandatory witness and hold points. Required Hold Points are outlined below and require release by the Superintendent, unless otherwise

specified in the contract. Hold Points require a minimum 48 Hour Notice to Council Engineers (anything less than this is subject to availability) unless otherwise stipulated in the contract. All Quality Assurance Documentation including Density Testing reports, Engineering Site Reports, Fill reports and similar are to be provided to the Superintendent/Principal as soon as they are received by the Contractor. Hold Points to be assessed in alignment with IDM Hold Point Checklists where relevant.

Pre-Start meeting requirements;

- Pre-Start for Civil Works
- Pre-Start for Landscaping Works

## **4.1 Concrete**

Hold Points

- Prior to placement of Kerb
- Inspection of Location and layout of shared path/ Tree protection zones
- Formwork Inspection Prior to Pouring of Concrete slabs (Footpath and similar)

## **4.2 Roads**

Hold Points

- Proof roll of Subgrade
- Proof Roll of Sub Base
- Proof Roll of Base
- Prior to Wearing Course being placed
- Density Testing of Subgrade
- Density Testing of Sub Base
- Density Testing of Base

### **4.2.1 Proof Rolling/Density Testing**

During a proof roll, the subgrade should not deflect more than 2 mm vertically within 300 mm of the test roller in isolated locations during the proof rolling of the subgrade. If deflection of the subgrade is found in more than 20% of the project area, Council will expect the total area to be reworked. Council will expect that proof-rolling of the subgrade, sub-base and base will be undertaken in accordance with the requirements of AS 3798 and Section 173 of the VicRoads specifications. There should be no visible deformation or cracking of the pavement during a sub-base or base proof-roll. The Contractor will be responsible for rectifying areas that fail a proof-roll test. adequate notice should be given to allow the Council Engineer, or a person nominated by the Council Engineer to attend proof rolling inspections. If a

proof-roll test fails, a further Council inspection will be required, and appropriate notice should be given. All proof rolling will be undertaken at the expense of the Contractor.

Council will expect pavements to be proof-rolled and density-tested, at the expense of the Contractor, immediately prior to priming. The number of density tests should be in accordance with AS 3798 and AS 1289 Geotechnical Testing, unless otherwise agreed by Council. Pavements should be trimmed to shape, swept and have a surface consistency suitable for priming. Adequate protection against over-spray during priming or tack coating should be provided for signs, approved edgings, and traffic control devices. Density Testing should provide evidence of conformance with Approved Engineering Plan Set.

### **4.3 As Constructed Data**

As Constructed data is to comprise of the following:

- Survey Data of Drainage infrastructure proving design conformance of levels and alignments
- D-Spec for all drainage 300DN and larger
- Survey Data Proving earthworks levels matching design (If requested by the Principal)
- All ITP's and engineering reports relative to Civil works
- Density Test Reports for pavement construction
- Fill reports from NATA Accredited Geotechnical Laboratory where relevant

## **5 SCHEDULES AND STANDARDS**

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Australian Standards (AS/NZS)

- AS 1289: Geotechnical Testing
- AS 1379: Concrete manufacture and supply
- AS 1428.1: Equitable pedestrian access
- AS 1742 series: Geometry, dimensions, colour, and layout of symbols and text
- AS 1906.3: Raised pavement markers
- AS 2890.1: Off-street carpark facilities and layouts
- AS 3600 / AS 3600-2018: Concrete Structures
- AS 3610: Formwork
- AS 3798: Earthworks, filling, and subgrade preparation
- AS 3996: Access covers, grates, and frames
- AS 4049: Pavement marking materials

- AS 4058: Rigid pipelines (RCP)
- AS 4586: Slip resistance classification
- AS 4671: Steel reinforcement
- AS/NZS 1158: Public realm and structural lighting
- AS/NZS 1254: Flexible pipelines (PVC)
- AS/NZS 2566.2: Flexible pipeline installation and bedding
- AS/NZS 3000: Wiring Rules
- AS/NZS 3500.3: Plumbing and Drainage – Stormwater Drainage
- AS/NZS 3725: Specified support types for rigid pipelines
- AS/NZS 5065: Stormpro-style PP pipes

#### Austroads Guidelines

- Austroads Guide to Pavement Technology Part 2
- Austroads Guide to Pavement Technology Part 4K (including Section 7)
- Austroads Guide to Traffic Management
- Austroads Road Design Guidelines Part 5: General and Hydrology Considerations

#### VicRoads Standards

- VicRoads Standard Specifications for Roadworks and Bridgeworks (Clause 304.07)
- VicRoads Section 173
- VicRoads Sections 701, 703, or 704
- VicRoads Section 708
- VicRoads Supplement to Austroads Road Design Guidelines Part 5

#### Environmental Protection Authority (EPA) Guidelines

- EPA Publication 960: Do it Right on Site - Chapter 4 Erosion and Sediment
- General EPA Guidelines

#### Other Design Manuals & Requirements

- Infrastructure Design Manual (IDM)
- Construction Environmental Management Plan (CEMP)